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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/580,633	05/30/2000	Shinichi Horita	032817-003	1994

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EXAMINER

PHILIPPE, GIMS S

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 09/03/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/580,633

Applicant(s)

HORITA, SHINICHI

Examiner

Gims S Philippe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: .

DETAILED ACTION

This is a first action in response to application no. 09/580,633 filed on May 30th 2000 in which claims 1-24 are presented for examination.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5, 7-9, 11-15, 19-21, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukui et al. (US Patent no. 5,566,280).

Regarding claims 1, 7, 12-13, 19 and 24, Fukui discloses the same apparatus for obtaining data on the three-dimensional shape (See Fukui's Abstract). The apparatus comprising a device for producing data on the three-dimensional shape of an object (See Fukui's fig. 1, item 11, col. 3, lines 10-15), a display device for displaying an image based on the data produced by the producing unit (See display 18, col. 3, lines 65-67 and col. 4, lines 1-2), a viewpoint variator for changing a viewpoint of the image displayed on the display device (See Fukui fig. 1, item 16, and col. 3, lines 56-64), and a position changer for changing the relative positional relationship between the object and

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the producing device in accordance with the viewpoint change of data on the three-dimensional shape by the viewpoint variator (See Fukui fig. 1, item 19, and col. 4, lines 3-6).

As per claims 2-3, 5, 8-9, 14-15, 20-21 most of the limitations of this claim have been noted in the above rejection of claim 1. In addition, Fukui further discloses changing the relative positional relationship between the object and the producing device in synchronism with the viewpoint change of the image by the variator (See Fukui col. 4, lines 32-43), and after confirmation of the viewpoint change of the image by the viewpoint variator (See Fukui col. 6, lines 1-14).

As per claims 11 and 23, most of the limitations of this claim have been noted in the above rejection of claim 1 and 19. In addition, Fukui further discloses manipulation for shifting the position of the camera (See Fukui col. 6, lines 21-24).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 10, 16, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui et al. (US Patent no. 5,566,280) in view of Miramonti et al. (US Patent no. 5,864,640).

Regarding claims 4, 6, 10, 16, 18, and 22, it is noted that Fukui is silent about a rotation stage as specified in the claims.

However, Miramonti discloses an apparatus for obtaining three-dimensional shape including a rotation stage for placing the object (See Miramonti col. 7, lines 45-47).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Fukui's position changer by incorporating Miramonti's rotation stage for placing the object. The motivation for performing such modification in Fukui is to keep the shading constant provided that the platform is rotated in a synchronized manner as taught by Miramonti (See Miramonti col. 5, lines 65-66).

As per claims 6, 18, it is noted that Fukui is silent about combining pieces on the three-dimensional shape of the object inputted to make up data on the three dimensional shape on one coordinate system as specified.

However, Miramonti discloses an apparatus for obtaining three-dimensional shape including the step of combining pieces on the three-dimensional shape of the

object inputted to make up data on the three dimensional shape on one coordinate system (See Miramonti col. 3, lines 15-21, col. 5, lines 21-33).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Fukui's step of producing three-dimensional shape by incorporating Miramonti's apparatus for obtaining three-dimensional shape including the step of combining pieces on the three-dimensional shape of the object inputted to make up data on the three dimensional shape on one coordinate system. The motivation for performing such modification in Miramonti is to identify a trackable patch in order to determine the coordinate system of the patch as taught by Miramonti et al. (See Miramonti col. 3, lines 19-23).

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Migdal et al. (US Patent no. 5,870,220) teaches portable 3-D scanning system and method for rapid shape digitizing and adaptive mesh generation.

Migdal et al. (US Patent no. 6,044,170) teaches system and method for rapid shape digitizing and adaptive mesh generation.

Mimura et al. (US Patent no. 5305092) teaches apparatus for obtaining three-dimensional volume of data of an object.

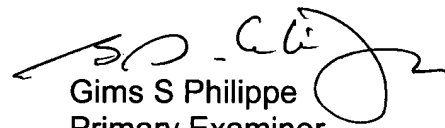
Usami et al. (US Patent no. 4982438) teaches apparatus and method for recognizing three-dimensional shape of object.

Sinclair et al. (US Patent no. 5747822) teaches method and apparatus for optically digitizing a three-dimensional object.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S Philippe whose telephone number is (703) 305-1107. The examiner can normally be reached on M-F (9:30-7:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S Kelley can be reached on (703) 305-4780. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.


Gims S Philippe
Primary Examiner
Art Unit 2613

GSP

August 27, 2003